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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/807,822	03/24/2004	Jathan D. Edwards	10421US01	4335

7590 09/05/2008
Attention: Eric D. Levinson
Imation Corp.
Legal Affairs
P.O. Box 64898
St. Paul, MN 55164-0898

EXAMINER

MAZUMDAR, SONYA

ART UNIT	PAPER NUMBER
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1791

MAIL DATE	DELIVERY MODE
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PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/807,822	Applicant(s) EDWARDS, JATHAN D.	
	Examiner SONYA MAZUMDAR	Art Unit 1791	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 06 June 2008.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-8 and 10-20 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-8, 10-17, 19 and 20 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Response to Arguments

1. Applicant's amendments, see pages 4 and 5 in remarks filed June 6, 2008, with respect to claims 17-20, have been fully considered, and the rejection under 35 USC 112, 2nd paragraph has been withdrawn.
2. Applicant's amendments and arguments, see pages 2 through 10, with respect to the rejection of claims 1-8 and 10-20 under 35 USC 103(a) have been fully considered and are persuasive. Therefore, the rejection has been withdrawn. However, upon further search and consideration, a new grounds of rejection is made in view of Sakai et al. (JP 58-094149), Anderson et al. (US 5,142,385), and "A Method of Ruling Circular Diffraction Gratings and Their Use in the Moire Technique of Strain Analysis" by Fidler et al.
3. In response to applicant's argument that Nakane (US 6,324,139) and Peeters (US 4,394,661) are nonanalogous art, it has been held that a prior art reference must either be in the field of applicant's endeavor or, if not, then be reasonably pertinent to the particular problem with which the applicant was concerned, in order to be relied upon as a basis for rejection of the claimed invention. See *In re Oetiker*, 977 F.2d 1443, 24 USPQ2d 1443 (Fed. Cir. 1992). In this case, Nakane and Peeters are cited to cure the deficiencies of the teachings of Sakai et al., Anderson et al., and Fidler et al.

Nakane teaches using a prism (103) in an optical system to change the direction of a beam from a laser source (101) if desired (Nakane: column 1, line 58 - column 2, line 8; Figure 1). Also, Peeters teaches pulsing a laser to form a desired integer

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number of tracks, as a preferable method in recording digital information (Peeters: column 3, lines 7-10 and 33-57; column 4, lines 22-41).

Claim Rejections - 35 USC § 103

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

6. Claims 1, 2, 5, 12, and 14 are rejected under 35 U.S.C. 103(a) as being unpatentable over Sakai et al. (JP '149) in view of Anderson et al. (US 5,142,385) and "A Method of Ruling Circular Diffraction Gratings and Their Use in the Moire Technique of Strain Analysis" by Fidler et al.

With respect to claims 1, 2, and 12, Sakai et al. teaches a method of manufacturing a master disc, where a laser beam of which is divided into parts using a beam splitter (6), two mirrors (7a,7b) are used to reflect the sub-beams, so they overlap and they are expanded in diameter using (8a,8b) to fill the aperture field of the slit in the mask (12) and the holder (11) is rotated to form concentric circles in the resist coated

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substrate (10) (Figures 1 and 3). The pitches appear to be in the range of 0.1 to 10 microns (page 2: lower left hand column and upper right column).

Sakai et al. do not teach forming tracks with a particular track variation.

However, it would have been obvious to one having ordinary skill in the art to do so, as the disclosures by Anderson et al. and Fidler et al. teach.

Anderson et al. teach the use of an Argon Ion laser (351 nm) as the recording laser to form a pattern in a resist (column 2, lines 60-66), with a phase shifter (19) is disclosed as enabling active stabilization of the fringes for increased accuracy in the fringes formed (column 2, line 67 – column 3, line 25; column 3, lines 43-59; column 4, line 55 – column 5, line 12; Figure 1). Fidler et al. teach forming concentric gratings with strains as low as 0.01% to keep the gratings of a uniform shape (page 160, left column: 3rd and 5th paragraphs; page 163, right column; page 164, right column).

With respect to claims 5 and 14, Sakai et al. teach positioning laser beams so as to form concentric gratings, i.e. gratings in a two-dimensional array.

7. Claims 3, 4, 10, 11, 13, 14, 19, and 20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Sakai et al. in view of Anderson et al. and Fidler et al., as applied to claims 1 and 12 above, and further in view of Ohtomo et al. (US 5,763,037)

The teachings of claims 1 and 12 are as described above.

With respect to claims 3, 4, 13, and 14, Sakai et al. in view of Anderson et al. and Fidler et al. do not specifically teach using a plurality of different lasers and positioning laser beams so as to form a one-dimensional array of spots. However, it would have been obvious to do so, as shown by Ohtomo et al. who teach a mastering process

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where a set of spaced pits or grooves are to be made on a photosensitive layer of an optical disc by laser beams emitted onto a photosensitive layer, creating a one-dimensional latent image of focused laser spots, as required and corresponding to an informational signal from a light modulator, is formed (column 1, lines 35-41; column 2, lines 17-39; column 4, lines 9-29; Figures 2a-2c).

With respect to claims 10, 11, 19, and 20, Sakai et al. in view of Anderson et al. and Fidler et al. do not specifically teach defining a track width. However, it would have been obvious to do so, as Ohtomo et al. teach defining a track width equal or less than the distance between formed pits or grooves, indicating how mold releasing takes place between a stamper and disc base at the time of molding resulting from the conductive film formation processing method or the resist removing method at the mastering process. (abstract; column 4, lines 20-29).

8. Claims 6, 7, 8, 16, and 17 are rejected under 35 U.S.C. 103(a) as being unpatentable Sakai et al. in view of Anderson et al. and Fidler et al., as applied to claim 1 above, and further in view of Peeters (US 4,394,661).

The teachings of claim 1 are as described above.

With respect to claims 6, 7, 16, and 17, Sakai et al. in view of Anderson et al. and Fidler et al. do not specifically teach translating a plurality of pits or grooves by an integer amount of tracks and illuminating a photoresist layer a plurality of times. However, it would have been obvious to do so, as Peeters teaches pulsing a laser to form a desired integer number of tracks, as a preferable method in recording digital information (Peeters: column 3, lines 7-10 and 33-57; column 4, lines 22-41).

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With respect to claim 8, Sakai et al. in view of Anderson et al., Fidler et al., and Peeters teach repeating the translating a plurality of pits or grooves by an integer amount of tracks and illuminating a photoresist layer a plurality of times (Peeters: column 4, lines 22-55).

9. Claim 15 is rejected under 35 U.S.C. 103(a) as being unpatentable over Sakai et al. in view of Anderson et al. and Fidler et al., as applied to claim 12 above, and further in view of Nakane (US 6,324,139).

The teachings of claim 12 are as described above.

Sakai et al. in view of Anderson et al. and Fidler et al. do not specifically teach using a prism to create an interference pattern, or pattern of pits or grooves. However, it would have been obvious to do so, as Nakane teaches using a prism (103) in an optical system to change the direction of a beam from a laser source (101) if desired (Nakane: column 1, line 58 - column 2, line 8; Figure 1).

Allowable Subject Matter

10. Claim 18 is objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to SONYA MAZUMDAR whose telephone number is (571)272-6019. The examiner can normally be reached on 8:00 AM - 4:30 PM.

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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Philip Tucker can be reached on (571) 272-1095. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

SM

/Philip C Tucker/
Supervisory Patent Examiner, Art Unit 1791